

through the month, the most prominent exception being in parts of Iowa and Illinois, where the last decade was quite dry.

RIVERS.

Owing to the heavy rainfall in the upper Wisconsin River Valley from the 6th to the 10th, inclusive, a moderate flood resulted in the Wisconsin River from the 10th to the 20th, but no heavy losses were reported. This flood is described elsewhere. Good boating stages prevailed in the Mississippi throughout the month. The excessively heavy rains in northeastern Iowa on the 18th-19th caused a rapid rise in the Maquoketa River which flooded the pumping station in the city of Maquoketa and put the waterworks out of commission for almost a day. It is reported that there was no serious property loss and no one was drowned.

MISCELLANEOUS.

In most sections there was less sunshine than usual, the average deficiency being about 5 per cent. The average number of clear days was 12; partly cloudy, 10; cloudy, 9; with 0.01 inch or more precipitation, 10. Northwestern winds predominated, but many stations reported the prevailing direction as southwesterly. The highest velocity for a 5-minute period was at the rate of 54 miles an hour, from the east, at Minneapolis, on the 19th. At La Crosse, Wis., the highest velocity for the month was but 14 miles an hour.

HEAVY RAINFALL AT DUBUQUE, IOWA.

By JAMES H. SPENCER, Local Forecaster, United States Weather Bureau.

The rainfall during the storm of Sunday night, August 18-19 was the heaviest in 12 hours ever recorded here by the Weather Bureau; 5.17 inches fell from 6.52 p. m. of the 18th to 6.15 a. m. of the 19th; 1.88 inches fell from 7 to 8 p. m. of the 18th, and of this amount one-half inch fell in five minutes; 1.15 inches fell from 9 to 10 p. m.

There was much damage to city streets, the loss being estimated at \$10,000 or more. An immense amount of macadam, brick, stones, etc., was carried down West Eighth and Hill Streets and Julien Avenue. In the vicinity of the Wales Hotel the street was practically impassable to teams for several blocks. In some cases stones weighing 100 pounds or more were carried down from the side hills and deposited in the streets. Débris was carried down West Eighth Street to below Main. Besides the streets mentioned, Couler, Kauffman, and Eagle Point Avenues were among those most damaged. Kenety & Lee, contractors, were improving Kauffman Avenue, and they lost heavily from the storm.

The Union Electric Co. experienced heavy loss. Car service was suspended in many parts of the city during a large portion of the night of the storm, owing to the condition of the streets. In some cases the tracks were buried in macadam and other débris. There was much

damage at Union Park. The creek that runs through this beautiful park became a raging torrent. The water quickly overflowed its banks and tore up beds of flowers and shrubs by the roots. Benches and other paraphernalia were carried downstream and in some cases destroyed. The water rushed through the theater and rose nearly to the stage. One track to the park was buried for a mile or more in débris from the side hills. The loss to the company in the city and at the park will be several thousand dollars.

The damage from lightning in the city and county was considerable. Several houses and barns were struck, and damage resulted estimated at about \$5,000.

The Illinois Central Railroad and the Chicago Great Western Railroad were crippled for about 24 hours by washouts in this vicinity, and for a few hours freight and passenger service was nearly at a standstill.

Cellars were flooded in all sections of the city.

The Mississippi River rose about 2 feet at Dubuque during the storm and another foot on the day following. Government contractors supplying brush for river improvements lost quite heavily, as the islands upon which they were working were flooded.

The wind accompanying the storm was not severe and damage to crops was not heavy.

AUGUST, 1912, FLOOD OF THE WISCONSIN RIVER.

By JAMES H. SPENCER, Local Forecaster, United States Weather Bureau.

From 3 to 4 inches of rainfall in the upper Wisconsin Valley on August 9 and 10, 1912, following many weeks of excessive precipitation in that section, caused a moderate flood in the Wisconsin River from the 10th to the 20th of the month. The river at Wausau, Wis., rose from 5 feet on the morning of the 8th to 9.9 feet on the evening of the 11th.

Losses were not heavy, and those sustained were chiefly due to the closing down of some of the mills during the highest water, to washouts which interfered with railroad traffic and particularly to delays that resulted in repairing damage sustained during the July flood.

Postmaster F. W. Kubaska, of Merrill, Wis., states relative to the flood:

The only actual damage in the immediate vicinity of Merrill was to the cofferdam at the Grandfather Falls Co., which was under course of construction, and to the railroad bridge, upon which repairs were being made. The damage was about \$2,000.

Special forecasts of high water were issued to Wausau and Merrill on the morning of the 10th, and were of value.

Very little or no damage resulted from the flood between Schofield and the mouth of the river. The crest, however, reached the Mississippi River only a short time before the occurrence in northeastern Iowa of the exceptionally heavy rainstorm of the 18th-19th. The water from this storm and the flood from the Wisconsin River raised the Mississippi River at Dubuque about 3 feet in 48 hours, and caused a loss in materials of several thousand dollars to Government contractors in this vicinity.